

# Lifecycle of an ENUM registration

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## 1. Introduction

This document walks through the key points in the lifecycle of an ENUM registration, including:

- Registration
- Modification
- Renewal
- Expiry
- Registrar Transfer
- Registrant Transfer
- Elective Cancellation
- Dispute

## 2. Registration

### 2.1 Pre-qualification

A registrant must prove they are the end user of the telephone number and entitled to the ENUM registration. They do this by sending data to a Validation Agency (VA) who then validates this usage. The VA may validate the usage in a number of ways:

- A Directory Enquiries (DQ) lookup.
- A multi-part text message that the prospective registrant types into a web site.
- A private lookup into a Communications Provider (CP) database of customers.
- Any other mechanisms that meet the principles detailed in the Trial Group Report (especially sections 5.3 and 11.2).<sup>1</sup>

The VA then provides an authentication token to the registrar confirming ownership of the number range. To complete registration, the registrar presents the token to the registry. The VA token includes data saying who the registrar is, which must match the registrar who submits the request.

There is no requirement for any new registration of a previously registered number to cover the same range of numbers as before.

Nameservers are not required but if supplied only one set is allowed and applied to all the numbers in the registration. If the registrant wants different nameservers for different numbers then they need to make multiple registrations.

The registry will provide support in EPP to check whether or not a number or range of numbers has been registered yet or not, but the registry will not provide any additional information such as the registrar or registrant details.

### 2.2 Process

Initiated by a registrant through a registrar.

An ENUM registration can only be made by a registrar using EPP specific to ENUM (i.e. different from the EPP used to register .uk domains) and must include the authentication token. Registrars are responsible for delivering complete and valid tokens (we will use the standard token given in RFC 5105). The Registrar – VA contract should have terms for specifying standards for maintaining data quality and completeness.

No direct registrations.

No contract between the registry and the registrant exists.

The registry will allow a grace period during which a new registration can be cancelled without the registrar being invoiced. This grace period applies from the moment of registration until the invoice is generated. Invoices are currently generated at midnight on the 7<sup>th</sup> day of the month after that in which the registration was made. This grace period can therefore vary from a minimum of 7 days to a maximum of 38 days, depending on when the registration was made.

### 2.3 Product

Contents:	A contiguous range of telephone numbers, one set of nameservers.
Lifespan:	One year
Price:	£5 for the registration and first number, 10p for all additional numbers in the range.

This is the wholesale price the registry will charge. There are no price controls on how much registrars resell this at.

The Registry has a marketing budget that enables the registry to offer incentives to encourage ENUM take up in some market segments.

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<sup>1</sup> <http://www.ukenumc.org/documents/UKETGReportFinal.pdf>

If the registration is cancelled within the grace period then there will be no charge.

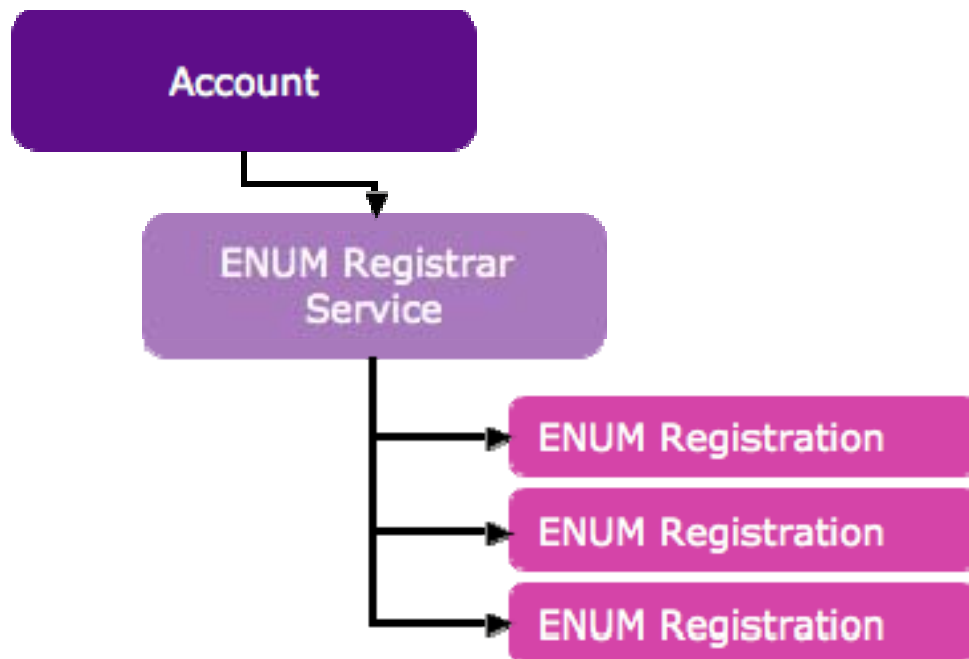
## 2.4 Data

A registrant does not get an account with the registry. Data will be stored on separate ENUM Tags prefixed by "44-".

If nameservers have been specified then all the numbers from the registration are built into the 4.4.e164.arpa zone with the same set of nameservers.

There is no WHOIS for ENUM.

The only data the registry hold for the registrant is that supplied in the VA token, though the registry does extract it from the token to create the ENUM registration data. This is linked to the registrar record. So in Nominet's account structure it looks like this:



## 3. Modification

### 3.1 Pre-qualification

A registrar can only modify ENUM registrations on their own account, and a single modification command cannot apply to numbers of different registrations, or a range of numbers that differs from those on the token. New numbers require new registrations.

If the registrar wishes to modify data that is validated by a token then a new VA token must be supplied with the new data in it. Otherwise no modification is allowed. Modification of token data can be combined with a renewal which would re-set expiry date to 1 year after the modification date and be charged at the normal renewal rate. Modifications that are not combined with renewals are not charged for.

A renew attribute will be added to the <update> EPP operation to allow modifications and renewals to be combined.

### 3.2 Process

As per section 2.2

### **3.3 Product**

There is no charge for a modification unless a renewal is specifically requested as part of the modification. In that case the details are the same as for a new registration. See section 3.

### **3.4 Database**

The structure in section 2.4 is updated.

If the nameservers have changed then the 4.4.e164.arpa zone file is changed for all the numbers in the registration. If they have been removed then the numbers are removed from the zone file. If they have been added then the numbers are added with the same set of nameservers.

## **4. Renewal**

### **4.1 Pre-qualification**

The time before expiry when renewals can be made depends upon how long tokens are issued for. If a token is issued for 1 year and 4 weeks, then renewals can be made 4 weeks before expiry. This is due entirely to the requirement that a token must be valid for the period of the ENUM registration. The expiry date is always extended by 1 year on renewal. The registry will allow renewals up to 7 days after expiry (registration expiry and not token expiry). If a renewal is not received within the permitted renewal window the registration is cancelled.

The registrar must supply a VA token valid for the period of the renewal.

Nameservers do not need to be supplied at the time of the renewal.

### **4.2 Process**

Initiated by a registrant through a registrar.

The registrant MAY combine renewal with any other operation at the same time. This depends on the VA token. So if the VA token has a different address then it renews and modifies at the same time.

Again only ENUM specific EPP can be used.

The registry will allow a grace period during which a renewal can be cancelled without the registrar being invoiced. This grace period applies from the moment of renewal until the invoice is generated. Invoices are currently generated at midnight on the 7<sup>th</sup> day of the month after that in which the renewal was made. This grace period can therefore vary from a minimum of 7 days to a maximum of 38 days, depending on when the renewal was made.

### **4.3 Product**

The same as for a new registration. See section 3

No direct renewals.

If the renewal is cancelled before invoicing then there will be no charge.

### **4.4 Database**

New VA token stored (old one kept), new dates.

## **5. Expiry**

### **5.1 Pre-qualification**

Domain has passed expiry date and not yet been renewed with a valid new token. The registry will recommend to registrars that they inform the VA that renewal is required by date 'x' and therefore re-validation is required by date 'y'.

## 5.2 Process

Initiated by the registry .

On expiry a notification is sent to the registrar to let them know this has reached expiry.

Seven days after expiry, if still not renewed, the registration is cancelled and all associated domains removed from the zone files.

All cancellations take place at the same time every day. There is no random queue. Once cancelled a registration will only be reinstated if the registry is in error.

## 5.3 Product

Not applicable.

## 5.4 Database

On cancellation the registration is marked as cancelled. Information on it is no longer available to the registrar.

To avoid spikes of activity in the system, dynamic updates of the zone files may be managed with cancellations having lower priority than other changes.

# 6. Registrar Change

## 6.1 Pre-qualification

The registrant must supply a new VA token with details of the new registrar in it. This token must be for the same range of numbers.

## 6.2 Product

No charge for registrar change.

## 6.3 Process

Initiated by the recipient registrar, not the donor registrar. So a pull not a push system.

Can only take place over EPP, registrant cannot come directly to the registry.

Recipient registrar issues a transfer request accompanied with the appropriate VA. Because the new VA token must include the details of the new registrar this acts as the authentication mechanism.

Transfer is immediate.

The donor registrar is sent an EPP notification of the transfer after it has taken place.

There are no situations when the registry would implement the registrar change operation, except if instructed by a court order.

## 6.4 Database

The registration is moved to the new registrar. The old registrar can no longer see or amend it.

# 7. Registrant Transfer

## 7.1 Pre-qualification

A VA token with the new registrant details and sufficient validity for the remaining period of the registration.

## **7.2 Process**

This is initiated by the registrant through the registrar. The registry will not check whether it is initiated by the new registrant or the old registrant nor whether the registrar has authority. All the registry will check is the VA token.

## **7.3 Product**

No charge for a registrant transfer.

## **7.4 Database**

The stored VA token changes as does the registrant name on the registration record.

# **8. Elective Cancellation**

## **8.1 Pre-qualification**

If the registrar requests this before expiry then they must have the permission of the registrant to do so. This may have been contractually agreed in advance.

If it is after expiry then the registrar may request this whether or not they have been specifically asked by the registrant to renew it.

## **8.2 Process**

The registrar issues a cancellation request via EPP. The cancellation is acted upon immediately and the registration is cancelled.

## **8.3 Product**

No refund is available for the remainder of the term of a cancelled registration.

There is no charge for an elective cancellation.

## **8.4 Database**

The registration is marked as cancelled and the same number(s) can now be registered. Also the numbers are removed from the 4.4.e164.arpa zone file if they were there using the same possibly staggered process as covered in section 5.2.

# **9. Dispute**

Registration disputes are beyond of the scope of the registry.